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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,776	06/08/2006	Mario Gauthier	BCGP101US	1330
23623 7590 04/29/2009 TUROCY & WATSON, LLP 127 Public Square 57th Floor, Key Tower CLEVELAND, OH 44114				
EXAMINER				
MCULLEY, MEGAN CASSANDRA				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
04/29/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/561,776

**Applicant(s)**

GAUTHIER ET AL.

**Examiner**

Megan McCulley

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 September 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-15 is/are rejected.  
7) ☒ Claim(s) 1-15 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 08 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-850)  
Paper No(s)/Mail Date 5/12/2006, 12/20/2005  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Inventor's Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

Claims 1-15 objected to because of the following informalities: there are typographical errors; the word "epoxidizing" in claim 1 should not be capitalized and the words "copolymerizing", "reacting" and "adding" in claim 15 should not be capitalized. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 8 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 is unclear since the second polymer includes reactive groups (plural) in claim 1, but is defined in claim 4 as having a single reactive group.

Claim 8 recites the limitation "the anionic charge" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6-11 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Knauss (U.S. Pat. 6,255,424).

Regarding claim 1: Knauss teaches a process for synthesizing dendritic polymers (abstract) comprising: epoxidizing/forming epoxide functionality to a polymer (col. 16 lines 45-55) and grafting a second polymer to the first (col. 7 lines 30-67).

Regarding claim 2: The first and second polymers of Knauss are linear (col. 8 lines 5-10) and homopolymers or copolymers (col. 7 lines 40-45).

Regarding claim 6: Knauss teaches further functionalizing the formed dendritic polymer and reacting with further polymers (col. 4 lines 43-55).

Regarding claim 7: Knauss teaches a promoter/initiator (col. 11 lines 5-10).

8-11 Knauss teaches a lithium/metal ion salt as the promoter (col. 11 lines 5-10 and fig. 3).

Regarding claim 14: Knauss teaches the second polymer can be styrene or substituted styrene (col. 3 lines 35).

Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Knauss (U.S. Pat. 6,255,424).

Regarding claim 15: Knauss teaches a one pot reaction (col. 3 lines 15-20) comprising polymerizing/copolymerizing a polymer (col. 3 lines 20-35), reacting with an

activating compound/coupling agent to generate active sites (col. 3 lines 43-47) and adding additional monomers (col. 4 lines 20-30).

Claims 1-5 and 13 rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (JP 2002-105209). The English language translation of the Japanese patent is used for the citations below.

Regarding claims 1, 13: Yamamoto et al. teaches making a comb/arborescent polymer (para. 1) comprising: epoxidizing a polybutadiene or polyisoprene (para. 7), and grafting/reacting with a polyether with has a hydroxyl group to react with the epoxy (para. 6).

Regarding claim 2: Yamamoto et al. teaches copolymers of diene, which are linear (para. 7).

Regarding claim 3: Yamamoto et al. teaches a perxoy compound/hydrogen peroxide is the epoxidizing agent (para. 8).

Regarding claim 4: Yamamoto et al. teaches the second polymer can be a polyalkylene glycol monoether (para. 9), which has a single hydroxy group.

Regarding claim 5: The glycols disclosed by Yamamoto et al. have the hydroxyl groups in the terminal positions (para. 9).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knauss (U.S. Pat. 6,255,424) as applied to claim 11 set forth above and in view of Huyskens, P.L., et al., J. Molecular Liquids, (1998), 78, 151.

Regarding claim 12: Knauss teaches the basic method as set forth above. Not disclosed is the initiator is lithium chloride or lithium bromide. However, Huyskens et al. teaches using LiCl instead of an alkyl lithium initiator (abstract). Knauss and Huyskens et al. are analogous art since they are both concerned with the same field of endeavor, namely polymerizing styrene monomers. At the time of the invention a person having ordinary skill in the art would have found it obvious to substitute the alkyl lithium initiator of Knauss with the LiCl of Huyskens et al. and would have been motivated to do so for

such desirable properties as increased rate constant, as evidenced by Huyskens et al. (abstract).

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Megan McCulley whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/  
Supervisory Patent Examiner, Art Unit 1796

/M. M./  
Examiner, Art Unit 1796